

REMARKS

Claims 1-7, 9-13, and 23 are pending after entry of this paper. Claims 1-4, 6, 7, 9, 10, and 23 have been rejected. Claims 5 and 11-13 have been objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent form. Claims 8, 14-22, and 24-25 remain cancelled without prejudice. Applicants reserve the right to pursue cancelled claims in a continuing application.

Claims 1 has been amended to include subject matter cancelled from claim 5. Support may be found throughout the instant specification, claims, and drawings as originally filed, for example, on page 2, lines 21-23 of the specification. No new matter has been introduced by these amendments.

Reconsideration and withdrawal of the pending rejections in view of the above claim amendments and below remarks are respectfully requested.

Response to Rejections under 35 U.S.C. § 103

The Examiner has rejected claims 1-4, 6, 7, 9, 10, and 23 under 35 U.S.C. §103(a) as allegedly being obvious over newly cited U.S. Patent No. 4,795,547 (“Barnes”).

In the first instance, claim 1 has been amended to include the subject matter cancelled from allowable claim 5. Applicants believe that claim 1 is allowable for the same reasons that claim 5 is allowable, as indicated by the Examiner on page 3 of the Office Action.

Furthermore, regarding claim 1, the Examiner cites Barnes as allegedly disclosing a process for fluidizing particles in a solids container (page 2 of the Office Action). The Examiner admits that Barnes does not disclose the entrainment of solids in a gas based on

adjustment of the Froude numbers (page 3 of Office Action). However, the Examiner asserts that Barnes teaches adjustment of the gas velocities which would allegedly lead one skilled in the art to modify the gas flow based on calculated Froude numbers (page 3 of the Office Action).

Barnes is directed to a process and apparatus for contacting particulate solids with a fluid (see abstract of Barnes). The solids are added to the solids container **2** via the inlet means **20** (column 3, lines 23-25). The solids are then fluidized by a fluidizing gas introduced through the nozzles **24** of the fluidization means **23** (column 2, line 67 – column 3, lines 1-5). The apparatus disclosed in Barnes also includes a centrally-located fluid supply means **1** where a first fluid introduced through inlet means **4** and a second fluid introduced through means **5** are mixed (column 2, lines 6-23). A deflection means **13** is connected to the downstream section **8** of fluid supply means **1** to direct the fluid radially outwards into a mixing zone **19** where the fluid is mixed with particulate solids (column 2, lines 44-51). A tubular shielding means **16** surrounds the fluid supply means **1** (column 2, lines 61-62). A cooling fluid is introduced via cooling gas inlet means **27** to cool the space **25** located between the shielding means **16** and the fluid supply means **1** (column 3, lines 27-31).

As discussed above, the fluidizing gas in the Barnes apparatus is introduced through nozzles **24**, fluidizes solids and then mixes with the fluid exiting the annular opening **17**. Thus, there is no *stationary fluidized bed* surrounding the tubular shielding means **16** as disclosed in instant claim 1. Applicants respectfully submit that the fluidization means **23** does not include a “stationary annular fluidized bed” as the Examiner suggests (page 2 of Office Action). Examples of fluidization means **23** disclosed in Barnes include “a perforated plate” or “ring-shaped or annular fluidization means,” but do not include a stationary annular fluidized bed (column 3, lines 1-2). Moreover, because Barnes does not disclose a stationary annular fluidized

bed as recited in the instant claims, the particle Froude numbers of Barnes are different than and unrelated to those used in the present invention.

Additionally, the fluid mixture exiting the fluid supply means **1** of Barnes *does not entrain solids* as recited in amended claim 1. The fluid mixture exiting the fluid supply means **1** is directed in the radial direction by deflection means **13** and mixed into the upward flow of the fluidizing gas from fluidization gas inlet means **22**. Moreover, the gas exiting fluid supply means **1** first contacts the cooling gas from the cool space **25** and thus *cannot entrain solids*.

For the foregoing reasons, applicants therefore respectfully request reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. §103(a).

Dependent Claims

Applicants have not independently addressed all of the rejections of the dependent claims. Applicants submit that for at least similar reasons as to why independent claim 1 from which all of the dependent claims 2-4, 6, 7, 9, 10, and 23 depend are believed to be allowable over the prior art as discussed *supra*, the dependent claims are also believed to be allowable. Applicants reserve the right to address individual rejections to dependent claims at a future time should it be deemed necessary or appropriate.

CONCLUSION

Based on the foregoing amendments and remarks, applicants respectfully request reconsideration and withdrawal of the pending objections and rejections and allowance of this application. In the event that a telephone conference would facilitate examination of this application in any way, the Examiner is invited to contact the undersigned at the number provided.

AUTHORIZATION

The Commissioner is hereby authorized to charge any additional fees which may be required for consideration of this Amendment to Deposit Account No. **13-4500**, Order No. 4791-4011.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account No. **13-4500**, Order No. 4791-4011.

Respectfully submitted,
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